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# Review: Dubious nexus between natural resources and conflict

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## ABSTRACT

What has been identified as, according to the relevant literature, the relationship between natural resources and conflict? In what ways are natural resources used to trigger conflict and instability? Who are the main players and actors in resource conflicts? To address these questions, this article critically reviews the main theoretical and empirical works on conflict, natural resources, abundance and scarcity. In doing so, the article aims to update the existing discussion with the latest literatures, which is more skeptical about the relationship between natural resources and conflict. Constructively, the main objective of this review is to explain that in spite the diverse arguments on show; there is a systematic shortcoming in the existing literature. In doing so the article illustrates persistent research shortcomings and difficulties in the theoretical and empirical arguments that have been put forward so far.

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## 1. Introduction

The theoretical literature on natural resources can be divided into two main groups, resource abundance and resource scarcity. Literatures falling in the first group argue that abundance of natural resources (non-renewable) leads to violence, inequality and conflict, while those of the second group claims that scarcity (both renewable and non-renewable) of natural resources can in fact alternatively contribute to conflict and instability. In laying out their cases, each side utilizes different methods and theoretical frameworks to support their presented arguments. By reviewing the main theoretical and empirical literature on conflict, natural resources and security studies this paper seeks to answer the following questions. What has been identified, according to the relevant literature, the relationship between

natural resources and conflict? In what ways are natural resources used to trigger conflict and instability? Who are the main players and actors in resource conflicts?

This paper is divided into three parts. The first part traces the evolution of the natural resources and conflict debate. The objective of this section is to give an overview of the origins and development of the natural resources discussion, something that is missing from previous literature reviews.<sup>1</sup> The first reason for putting forward this contribution is the practical importance of the subject matter at hand. The existing literature fields, ranging from environmental studies and international relations to the economy are all affected by the resource conflict nexus. The second

<sup>1</sup> Several literature reviews have already been written by other scholars, such as Koubi et al. (2013), Mildner and Lauster (2011) and Samset (2009). Despite their rich discussion, these scholars neglect herein however the origins and development of the term resource wars. Furthermore, while they critically describe the intrastate terms and literature findings, they have paid less attention to the interstate conflicts.

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reason for this offering is that it may help us to better trace how the argument about an assumed resource conflict relationship first developed, and how it subsequently evolved. In outlining these developments, I illustrate how some of the terminology regarding resource conflicts being affected by the events of the 1970s, such as the Arab Oil Embargo whereas, some expression over time have ultimately emerged from the intuition and overestimation of scholars.

The second and third parts will analyze the main theoretical and empirical findings. In doing so, the main purpose is to gain insight from prior works. These sections will theoretically discuss two grand concepts, namely abundance and scarcity. First, this paper finds that it is scarcity, itself, rather than natural resources that may lead to conflict. In other words, some countries have scarcity of non-resource factors, namely technical, knowledge and human capacity rather than natural resources, which can lead to scarcity within abundance of resources. Secondly, this paper illustrates that although these approaches do provide some explanations, they fail to portray the correlation between natural resources and conflict in a way that does justice to its full complexity. In concluding the paper, I combine my findings and highlight the gaps within existing arguments, namely political and economic costs of conflict, involvement of multiple actors and non-resource dimensions of conflict and conflict financing.

## 2. Classification and history of resource wars

The natural resource-conflict nexus is one of the most popular debates among international relations scholars. The classification and explanation of the concept of natural resources depends on the context in which the term is used. In this regard, it is important then to first define what is even meant by natural resources. According to the annual report of the World Trade Organization (WTO), natural resources are “stocks of materials that exist in the natural environment that are both scarce and economically useful in production or consumption, either in their raw states or after a minimal amount of processing” (Bacchetta et al., 2010, p. 5).<sup>2</sup>

Another point of note is the specific type of resource being referred to. Natural resources can be divided into two main groups: renewable and non-renewable ones. Renewable resources include land, forests and water; non-renewable ones include diamonds, fossil fuels and minerals. To measure the effect of non-renewable resources on violence scholars have classified the former according to particular measures and characteristics, such as non-fuel and fuel, lootable and non-lootable resources, and point and diffuse resources.<sup>3</sup>

<sup>2</sup> See: World Trade Report 2010 for an executive summary, [https://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/wtr10-2b\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/anrep_e/wtr10-2b_e.pdf).

<sup>3</sup> If a resource requires less investment, and unskilled labor to extract and transport it while also having a high market value then, it is a lootable resource (Samset, 2009). Diffuse resources meanwhile are spread over vast areas and can be extracted by a large number of groups while point resources are located in a small sized area and controlled by a limited group of producers.

There are several important active debates among scholars with regard to the relationship between natural resources and conflict. The literature on conflict be divided into three groups: those that argue that natural resources lead to ‘intra-state conflicts’ (Collier & Hoeffler, 2004; Fearon, 2005; Ross, 2006), literature which claim that natural resources lead to ‘inter-state conflicts’ (Borgerson, 2009; Kleveman, 2004; Klare, 2001a, 2001b; Moyo, 2012), and finally, those that emphasize both intrastate and interstate conflicts (Colgan, 2014; De Soysa, 2007). The second of these groups is also called that of the ‘Great Powers’ or ‘Blood Oil’ adherents (De Soysa et al., 2009; Fettweis, 2011).

### 2.1. The development of the term resource war

After the debate and concern about the resource-conflict nexus had emerged among scholars how did it then evolve over time? The term ‘resource war’ first appeared in the United States in the early 1980’s (Le Billon, 2004, p. 1). It referred to the Soviet movements in Afghanistan, the Middle East and Africa, which were perceived as threats to US access to important natural resources (Klare, 2001a, 2001b, p. 236). Ironically, despite the alarmist assumptions, the idea of a resource war turned out to be misguided. Stern (2016) explains that the reason for this was the misperception of scholars at the time, who exaggerated the threats arising from these resources and particularly oil. Considering the conditions of the Cold War, one may claim that any attempt at a resource grab by one of the Great Powers would be subsumed under the propaganda of war.

While the term resource war was used in the 1980s, scholars had in fact already started a debate about the resource-conflict nexus in the early 1970s due to the Arab Oil Embargo, and the nationalization of key natural resource industries.<sup>4</sup> The Oil Embargo was followed by the Iranian Revolution in 1979, which affected the global oil supply. In the year after the revolution, the Iran-Iraq war then began, this decreased the oil production of both countries. These events increased the alarmist concerns of scholars, who started to believe that the nature of conflict was changing (Dannreuther & Ostrowski, 2013). In light of this, several theoretical concepts emerged in the 1980s, such as ‘oil-weapon’, ‘energy-nationalization’ and ‘oil wars’.

Since the end of the 1980s, as a result of several political and economic developments such as the invasion of Kuwait by Iraq and in turn the invasion of Iraq by the U.S., the term resource war has been changed and reframed a number of times. New phrases have also been added to the literature, ranging from general to concrete terms, such as the Great Game, resource curse, resource conflicts, conflict resources, blood oil, strategic oil and environmental confrontation.

In the mid-1990s, for example, some scholars proposed that the so-called Great Game re-emerged for a second time in the resource rich geographic areas such as the Caspian Sea and the Arctic Sea regions. The first reason for this was that the Caspian Sea region’s natural resources were

<sup>4</sup> See Connelly and Perlman (1975); Arad (1979), *Sharing Global Resources*.

opened to international investments in the early 1990s which led to it being perceived as an alternative to the Persian Gulf. The second reason was the development of fleets in the Arctic Sea region. However, the reappearance of the Great Game notion is another illogical exaggeration because it has been proven that the Caspian Sea does not have the same resource capacity as the Persian Gulf, and the extreme conditions of the Arctic Sea region do not allow for the exploration of those resources. As such, some of the terms established a connection between the resource and conflict based on false intuition rather than analysis, which ultimately makes such arguments journalistic rather than scientific.

The term 'resource curse meanwhile,' emerged in the late 1980s as a way to address the economic crises being experienced by resource rich countries. The resource curse theory was first introduced by Richard Auty in 1993. However, it was the high profile paper of [Sachs and Warner \(1995\)](#) that really drew attention to the resource curse argument. Resource curse adherents argue that an abundance of resources and particularly oil in developing countries weakens the economic, democratic, and institutional capacities of national governments, making their societies vulnerable to armed disputes ([Andersen & Ross, 2014](#); [Ross, 2012](#)).

The terms resource conflicts and conflict resources were popularized by [Collier and Hoeffler \(1998\)](#). The 'resource conflict' framework links the onset of armed violence to the exploitation and control of natural resources. The 'conflict resources' framework, meanwhile, proposes that the high market value of resources offers financial opportunities for belligerents, individuals or rebel groups which encourages them to take up arms or to prolong military conflicts ([Le Billon, 2012](#); [Samset, 2009](#)).

The 'blood oil' and 'strategic oil' are used by specifically [De Soysa, Gartzke, and Lie \(2009\)](#). They used the first of these to refer to the great power adherents, who described the relationship between resource and conflict as that of a simple competition between the Great Powers. Some of the blood oil proponents are also called the Great Gamers. By using the strategic oil argument, De Soysa, Gartzke and Lie propose that oil resources provide petro-states with the protection of powerful countries, which encourages aggressive behavior among petroleum exporters.

The term environmental confrontation was added to the lexicon Jasper Humphreys, who argued that "the concept of resource wars has become meaningless, not only because of its lack of clarity but also because the absence of resources is a primary driver in war. Conflicts around resources and commodities are more usefully framed within ideas of environmental confrontation" (2012, p. 1082).<sup>5</sup> Humphreys explains that he used the term confrontation instead of war or conflict because within the environmental arena confrontation conveys the notion essence of many different clashes. The term resource is also restrictive, since it covers only strategic resources like oil and gas but overlooks

life resources that are important for human survival: water, soil and ecosystems.

In sum, the intellectual developments of ideas and expressions regarding the resource-conflict relationship first blossomed after the Arab Oil Embargo of the 1970s. Since then, a number of different related terms and concepts have been popularized in the literature. Although some scholars have indeed based their arguments on particular world events such as the Iraq-Iran war and the economic underperformance in resource rich developing countries, some of the ideas emerged due to the imagination, false intuition and overstatement of academic onlookers. While these terms tend to cover a variety of resource dimensions, some of them such as the Great Game ultimately belong to the journalistic level.

### 3. Resource scarcity: theoretical and empirical debates

What is scarcity and how can resource scarcity lead to instability and conflict? Scarcity is basically explained as imbalance between finite supplies and infinite demand. For example, according to the Oxford English Dictionary, "scarcity is insufficiency of supply; smallness of available quantity, number, or amount, in proportion to the need or demand" (Oxford English Dictionary, 2016). In other words, scarcity definition is mostly based on supply and demand interaction.<sup>6</sup> Despite this broad definition, scarcity is interpreted differently by different scholars. This interpretation can be divided into three main groups, namely neo-Malthusians, distributionists and cornucopians (resource optimists).

One may ask what Malthusianism is, and when the original discussion around its thinking began. [Homer-Dixon \(1999\)](#) argues that although the original argument regarding population growth, natural resources and scarcity first dates back to the eras of Confucius and Plato, the current debate was initiated by the British economist Thomas Malthus in 1798.<sup>7</sup> Malthus claimed that the human population increases exponentially, whereas food production only grows at a linear rate. Neo-Malthusians thus argue that an abnormal gap between population growth and natural resources availability leads to frustration, insurrection and conflict. The main argument herein is that the physical availability of natural resources is limited and if the gap between demand and availability increases then scarcity, competition and eventually violence will ensue ([Homer-Dixon, 1999](#)).<sup>8</sup> Neo-Malthusians consist of environmentalist and peak-oil/gas supporters.

However, distributionists explain scarcity from social and institutional perspectives as they argue that the key principal of prosperity is the equal distribution of power and wealth rather than the availability of natural resources.

<sup>6</sup> Detailed discussion on the concept of scarcity, see PhD Dissertation by [Kester \(2016\)](#).

<sup>7</sup> See: The original model of [Malthus \(1798\)](#), *An Essay in the Principle of Population*, Reprinted, Oxford: Oxford University Press.

<sup>8</sup> A number of scholars have in more recent times also found a positive relationship between resource scarcity and violence. Important examples include [Arad, U. B. \(1979\)](#); [Bachler \(1996\)](#); [Hauge and Ellingsen \(1998\)](#); [Kahl \(2008\)](#); [Urdal \(2005\)](#); [Westing \(1986\)](#).

<sup>5</sup> He defines the term as follows: "High politics' of oil, gas and water as part of national security, with disputes labelled as 'resource wars' ([Humphreys, 2012, p. 1065](#)).

Although this idea has been adopted by a number of other scholars, the arguments of distributionists are particularly blessed by Marxists and neo-Marxists (Homer-Dixon, 1999).

The third group is cornucopians, which includes economists and adherents of technology. This group of scholars is refuting the arguments of the previous groups by arguing that market and technological innovations can solve scarcity problem. The term ‘cornucopian’ is taken from the Ancient Greek horn of plenty (Gleditsch & Theisen, 2010). Cornucopian scholars (Boserup, 1965; Gleditsch, 1998; Simon, 1996; Theisen, 2008) argue that although natural resources are not abundant, they are also not limited as described by neo-Malthusians. According to cornucopians scholars, people are the “ultimate resource” and human ingenuity has a strong capability to deal with the results of scarcity (Simon, 1981). They put technological developments and market forces at the centre of their explanations and argue that market mechanisms and advances in technology can improve the methods that people use to handle resource scarcity. Similarly, drawing on the ideas of democracy and cooperation, liberal scholars propose that conflict over common resources is more expensive to pursue than cooperation is.

The second question is that in what ways these groups link scarcity to instability and conflict? Homer-Dixon (1999) identifies that resource-scarcity can lead to three types of conflict: interstate, group identity and insurgency. With regard to the first, the existing debate claims that renewable resources rarely lead to conflict between states (Brochmann, 2012; Dinar, 2011; Homer-Dixon, 1999). According to Koubi, Spilker, Hohmelt, and Bernauer (2013), water is the only renewable resource that the literature pays extensive attention to when addressing interstate conflict. The reason for this is that water is essential to agricultural development and growth, as well as the construction and use of military facilities (Homer-Dixon, 1999). The existing literature argues that the dispute over water resources might occur in particular conditions, such as political contestation between downstream and upstream neighbors. According to Homer-Dixon (1999), a conflict between modern states over renewable resources is unlikely. First, it is difficult to convert cropland and forests into state power. Second, those countries whose economy is strongly dependent on renewable resources are likely to be poor, and poor ones simply cannot afford to buy the sophisticated military equipment needed to start a war. However, states can increase their state economic and military powers through non-renewable sources.

This argument is advanced by scarcity of peak oil/gas adherents which links the scarcity of natural resources to the great power competition (Klare, 2001a, 2001b). According to these scholars, one of the main reasons for interstate conflict occurring is the intrinsic competition between great powers, which increases the chance of conflict onset in resource-rich areas. For example, economist Moyo (2012) argues this competition has intensified in recent times due to the rapid growth of China, India, and the return to prominence of Russia, which has increased the demand for limited natural resources primarily oil. Moyo is not alone in her argument, Susanne (2004) suggests that resource wars are the new threat to future global security in the international arena

due to the sharp decline of natural reserves, particularly oil, as well as to the unequal distribution of them between the Global North and Global South. However, Price-Smith (2015) argues that there is no empirical evidence of a severe scarcity of non-renewables being destined to drive the great powers to make war on one another. It is worth to mention that it is not only consumption, but also production, that is now increasing. Also, new energy producers have joined the global energy market as a result of technological developments. An important example of this is the global oil glut experienced in both 2015 and 2016.

From the perspective of group identity and insurgency conflicts, the existing literature proposes diverse research findings, such as population growth, environmental degradation, weak institutions, and an unequal power distribution are the main independent mechanisms that can cause internal violent conflict (dependent variable). However, the different and contradictory results of scholars render the overall general conclusion reached contentious. For example, Homer-Dixon (1994) argues that environmental degradation, population growth, and fresh water scarcity contribute to armed violence (other scholars backing this claim are: Hauge & Ellingsen, 1998; Urdal, 2005). In contrast, Theisen (2008) mentions that water scarcity does not increase the chance of civil conflict whereas crucial land degradation certainly can contribute to violence. Urdal (2005) outlines that both population growth and land scarcity increase the chance of violence. Overall these examples illustrate that there is a lack of clear consensus among scarcity scholars due to their different case studies, instruments of measurement and time frames.

The arguments of scarcity adherents have been challenged by a number of scholars in terms of qualitative and quantitative findings. According to Stern (2016) the assumptions underpinning the scarcity notion are illogical due to the exaggeration of threats arising from oil ownership from misperceptions of market information. Furthermore, Koubi et al. (2013) explain that despite their strong empirical explanations, scarcity scholars have weak quantitative research results ones that fail to prove the link between resource scarcity and intrastate or interstate conflict. The reason for this is that some large-N findings contradict early results, which illustrate that the scarcity-conflict nexus is more complicated than scarcity scholars would have us believe. Dinar (2011), meanwhile, argues that natural resource scarcity may in fact be an important force for cooperation between states. However, scholars of natural resource scarcity have hitherto ignored the ways in which scarcity can spur cooperation (Deudney, 1999).

Considering these findings, three conclusions can be drawn from this section. First, scarcity is a complex term and it should not be equated with only natural resources. As it is explained by Kester (2016) some countries may suffer from scarcity of technical, knowledge and human capacity rather than natural resources. In light of this, without a proper capacity it is also possible to have scarcity within abundance of resources. While supporting the scarcity argument, Andrews-Speed (2015) offer an alternative explanation that natural resources are not physically scarce but there are indeed economic, political, environmental and equity barriers that can lead to a scarcity of natural resources.



Due to the strong rule of law, decent neighbourly relations and existence of strong norms for compromise and of multilateral institutions, the North Atlantic countries are highly unlikely to utilize force against or declare war to each other. However, these dimensions and buffers are currently lacking in the Middle East, Africa and Asia. As such, the U.S and Europe should work closely with these regions to prevent any resource disputes erupting (Andrews-Speed, 2015). Similarly, Gleditsch (1998) explains that some highly developed countries have population density, clean water, and land degradation problems but they still do not suffer from environmental violence. Thus the main issue might be that poor economic development, rather than environmental scarcity, leads to conflict. Kester (2016) names this situation as “second-order-scarcity” which refers to a lack of technology, economic capacity, and knowledge to stop resource scarcity. In this regard, it may be scarcity, itself, rather than natural resources that leads to conflict.

Second, conflict can be defined differently based on different dimensions. However, the common consensus is that conflict consists of multiple dimensions (political, economic, environmental, historical, cultural, and geographical etc.) rather than single factor. In this regard, scarcity of natural resources is not strong enough, by itself, to induce either interstate or intrastate conflict. It needs in fact to interact with other variables. Finally, related to the previous reasons, scarcity of natural resources might be a contributing or marginal reason for rather than the root cause of a given conflict. In other words, it needs to interact with non-resource factors in order to cause violence.

#### 4. Resource abundance debate

Second group of scholars has sought to illustrate that it is not scarcity, but rather the abundance of natural resources that leads to interstate and intrastate conflicts (Collier & Hoeffler, 1998; Collier, Hoeffler, & Rohner, 2009; De Soysa, 2002; Koubi et al., 2013; Le Billon, 2007). The main academic debate offers various frameworks regarding the relationship between resource abundance and conflict, such as greed versus grievance, onset versus duration, the resource curse, the rentier state, the Great Game, and aggressive (revolutionary) state model. Each of these concepts proposes different qualitative and quantitative findings by connecting abundance of natural resources to conflict. The unity in diversity is that they cover mostly the non-renewables that tend to have a high market value such as diamonds, oil, natural gas, gold and raw minerals.<sup>9</sup> In the following section, I will discuss the interstate and intrastate literature separately due to the diversity of concepts and assumptions in play.

##### 4.1. Intrastate conflicts and natural resources

In 1998 World Bank economists Paul Collier and Anke Hoeffler, published their leading article on ‘Economic

Causes of Civil War’, explaining the relationship between non-renewable resources and intrastate conflict. Since then, a vast body of literature has gone on to scrutinize the resource abundance-conflict nexus (Collier & Hoeffler, 1998, 2004, 2005; Humphreys, 2005; Le Billon, 2011; Ross, 2001, 2004, 2012).

The greed versus grievance argument is one of the most important debates among such scholars. Collier and Hoeffler (2004) claim that resource-abundant countries have a high potential to witness rebel movements and civil war because the wealth available from non-renewable resources offers a financial opportunity for rebellion groups. Such individuals are identified as “greedy rebels”. In this episode of violence, the lootable character of resources plays a determining role which is called the ‘opportunity hypothesis’ (Collier & Hoeffler, 1998). In contrast, another group of scholars argues that resource abundance increases the chance of ‘grievance’ oriented civil conflicts when a particular ethnic group dominates the resources and their distribution or when the local population is frustrated by resource exportation (Ross, 2004; Wick & Bulte, 2006). Mildner and Lauster (2011) propose three reasons for such grievances: first, the weak state capacity can increase rent-seeking motives; second, it can lead to shortages of public goods; and, third, at weakened capacity can decrease the ability to intervene of the state. However, the greedy rebel argument has been challenged by a number of scholars. For example, Cramer (2002) posits that the arguments of Collier and Hoeffler are reductionist, speculative and misleading because they overemphasize the role of material resources and their profitability. In doing so, they omit other features of conflicts, such as social, cultural and historical factors. In light of this, the greedy rebel argument seems too straightforward to be believed as it implies that the mere obtention of resources is the main guiding purpose of rebellion rather than justice, ideology, political frustration and/or external factors.

Second discussion is ongoing between duration of violence and civil war onset. According to Ross (2004), while oil can increase the chance of conflict onset, diamonds (as another lootable resource) can only have an impact on the duration of the conflict. Lujala (2010) contribute this argument by drawing attention to geographical location of natural resources, namely oil. Lujala (2010) argues that onshore oil production is more likely to lead to the onset of conflict than offshore production is as rebel groups can easily access onshore oil sources. Going back to Ross, he offers a more detailed analysis in his recent book, *The Oil Curse* (2012), one that slightly differ from what he originally said in 2004. According to him “when oil-producing states fall prey to civil war, oil is never the only factor; it is sometimes not even the most important factor. Natural resource wealth alone is insufficient to start a secessionist movement” (2012, p. 145).

By using dichotomous variables, several scholars find a positive relationship between resource abundance and intrastate conflict duration rather than civil war onset (Fearon, 2005; Thies, 2010). Le Billon (2005) asserts that geographic and profitability (illegal or legal) characteristics play a determining role in conflict duration because resources, which are far away from government control and more likely

<sup>9</sup> Authors who analyze diamonds include Gilmore, Gleditsch, Lujala and Rod (2005); Humphreys (2005); Ross (2006); Le Billon (2008). Lootable and non-lootable resources, meanwhile, are discussed by Le Billon (2001); Lujala (2009).

to illegal traded, are more attractive to rebel groups. Mildner and Lauster (2011) connect the lootable or non-lootable character of resources such as diamonds to resource duration. They identify two kinds of diamonds: primary and secondary. The first require great effort and sophisticated technology to mine, which makes them unattractive to rebels, while the second, meanwhile, can be found in loose soil or sediments.

Finally, in the late 1980s scholars added the resource curse argument to the discussion. This hypothesis proposes that resource wealth in developing countries leads to economic disarray, less democracy, authoritarianism, weak government capacity and institutions that make society vulnerable to conflict onset as well as increase the chance of armed disputes arising (Ross, 2001, 2004, 2012). These eventualities stem from the mismanagement of resource revenues (mostly oil), and situations where the source of state fund is mainly oil rather than taxation, the nationalization of resource markets and industry, and the volatility of resource prices. The resource curse scholars take the end of 1970s as the starting date of resource curse because resource production in non-Western countries was controlled by the Seven Sisters, which changed only with natural resource nationalization in the 1970s.<sup>10</sup>

However, the arguments put forward in relations to abundance have been challenged by a number of scholars. First, from a quantitative perspective, a number of scholars criticize the findings of the resource curse line of thinking for being weak with respect to measurement instruments, time frame and restrictive empirical analyses (Boschini, Pettersson, & Roine, 2007; Brunnschweiler & Bulte, 2009; Haber & Menaldo, 2011; Luong & Weinthal, 2010). Haber and Menaldo (2011), for example, by using the broader data set, could not find evidence to support the resource curse argument. The reason for these different results is precisely due to the scope of the timeframe, data and distinguishing measurement instruments used. Additionally, Luong and Weinthal (2010) argue that taking the late 1970s as a start date implies that resource-rich countries' political and economic history only starts with the production of oil, which undermines "path-dependent effects" and restricts the research's ability to provide nuanced historical, geographical and cultural perspectives.

From a qualitative perspective, one may question what are the non-resource methods that may finance violence? Wennmann (2007) argues that while natural resources have contribution to some conflicts they are nevertheless not the only sources of finance for a rebel group. Most rebel conflicts have multiple methods of financing, namely kidnapping, levying money from civilians and companies, external assistance and asset transfers from supporters. Thus, emphasis on natural resources does not provide the full picture of conflict financing.

Another group of scholars propose the 'rentier state' counter-argument which holds that resource-wealthy states use these asserts to buy peace through repression,

corruption, and patronage, even though such behaviors may lead to grievances emerging among the local population (Basedau & Lay, 2009; Kaldor, Karl, & Said, 2007; Lowi, 2009). The rentier state hypothesis proposes a number of mechanisms being utilized by resource rich countries to protect their stability. First, the rentier states use the high income from oil to create politically stable platforms (Ostrowski, 2013). A second mechanism is repression which resource revenues being spent on increasing the state security apparatus so as to restrict the growth of possible opposition movements. Third, resource rich governments can use the oil revenues to buy off opposition groups and appease their demands, which can restrict the emergence of rebel leaders or other political parties besides the ruling one. Finally, revenues can provide the resource rich state with external protection. Due to the vital importance of energy security, external powers may offer to protect such governments in case of rebellion or attack (Basedau & Lay, 2009).

Considering these arguments, one obvious conclusion from this section is that the existing literature offers a wide diversity of concepts. The advantage of having this variation is that it allows a wide range of dimensions on the relationship between natural resources and conflict to be covered. The disadvantage of these groups is that they explain the concept of conflict from a limited side. In doing so, they miss one of the other dimensions, namely non-resource dimensions, different methods of conflict financing, lack of common point among statistical findings and difference characteristics of resource regions. The common view is that the availability of natural resources is the key problem for political, economic and social developments. It may also be other way around, poor political, economic, and social institutions and developments might be the main reason for an effective management of natural resources. In other words, it could be the weak management of other non-resource dimensions that lead to conflict.

#### 4.2. Interstate conflicts and natural resources

How does the literature explain the nexus between non-renewable resources and inter-state conflicts? To answer this question, scholarly focus has been placed on multiple different world regions such as the Caspian Sea region, the Middle East, the Arctic Sea region, the South China Sea and the Mediterranean. In order to enhance the abundance argument, scholars have proposed a variety of other dimensions including location, resource prices, great power competition and revolutionary governments (Alabi, 2013; Borgerson, 2009; Kleveman, 2004; Colgan, 2013; De Soysa et al., 2009; Klare, 2001a, 2001b).

The first group of scholars uses the Great Game to describe resource rich regions, such as the Caspian Sea region and the Arctic Sea region (Borgerson, 2009; Kleveman, 2004). In doing so, the first group proposes these regions as the new locations for the Great Game in a fight over energy resources. In 2009, Scott G. Borgerson argued that the Great Game had moved to the Arctic Sea region from the Caspian Sea region due to its geostrategic advantages and rich natural resources. The reason for the Great Power movement to the Arctic Sea region is the increasing military naval infrastructures and development of ports. However, one could argue

<sup>10</sup> Seven Sisters was term used to describe seven big oil companies in the 1950s. The group included Anglo-Persian Oil Company, Gulf Oil, Standard Oil of California, Texaco, Royal Dutch Shell; Standard Oil of New Jersey and Standard Oil Company of New York.

that these infrastructure developments might in fact be because of the Arctic Sea region's harsh natural environment rather than great power competition. Surprisingly, Borgerson changed his pessimistic argument regarding the Arctic Sea region developments in his 2013 article, "The coming Arctic Boom". Borgerson explains that "many observers – including me–predicted that [...] the race for resources would inevitably end in conflict [...]. Proving pessimists wrong, the Arctic countries have given up on saber rattling and engaged in various impressive feats of cooperation" (2013, p. 2). This example illustrates that the argument about great power competition for the Caspian Sea region's or over the Arctic Sea region's natural resources is just the product of the exaggeration of certain scholars due to the false perception that the region can be an alternative energy source to the Persian Gulf.

Colgan (2010, 2014), De Soysa et al. (2009) propose the 'aggressive state' hypothesis as an alternative argument, which claims that high oil prices encourage petro-states to behave more aggressively in the international arena.<sup>11</sup> There is a systematic debate among these scholars. Colgan (2010, 2014) combines the idea of high oil revenue with revolutionary states, and proposes the 'revolutionary petro-state' theory. "Petro-revolutionary states are roughly three and a half times as likely to instigate a militarized interstate dispute (MID) than are non-revolutionary, non-petrostates" (Colgan, 2014, p. 200). Colgan (2014) posits three main reasons for revolutionary petro-states aggressiveness. First, high oil revenue encourages petro-leaders to take risks. Second, oil revenue is an important financial means for buying domestic political support and legitimizing internal power. Third, revolutionary leaders have fewer internal executive restrictions.

By using the 'strategic oil' argument, De Soysa et al. offer another reason for the aggressive foreign policy of petro-states, the 'security guarantee of powerful countries' (2011, p. 6). They claim that oil exporting countries are more likely initiators of conflict and more aggressive because of great power protection. The reason for this is that powerful oil importers prefer to protect oil exporters, so as to preserve their continuous access to oil resources and prevent oil prices from increasing. Considering these arguments, one may question that if great powers prefer stable oil prices, then oil rich regions should be less aggressive and more stable. Otherwise aggressive behavior of resource states will disturb the production and transportation of oil.

In contrast to the findings of Colgan and De Soysa, Caselli et al. (2013, p. 7) argue that by looking at similar "directed dyads", they in fact arrive at different outcomes regarding petro-states. According to their findings, oil-rich states are less likely to be initiators of conflict. The authors explain that the reason for this opposite outcome might be because of differences in the chosen case studies and methods. They contribute to the resource-conflict discussion by developing their own distinguished perspective, which is termed the 'geographical dimension'. Caselli, Morelli, and Rohner (2014) formulate three main arguments

herein: when oil is near the border and only one country has oil, the chance of conflict is high; when oil is far from the border, conflict tends to be less likely to happen; when both countries have natural resources and if the resources are distributed asymmetrically vis-à-vis borders, the probability of conflict onset is strong.

In short, the resource abundance literature represents partly the aggregation of many diverse arguments and partly a systematic discussion between several different scholars. Taken separately, the abundance arguments have several empirical shortcomings. Firstly, the existing works overlook the geographical dimension. In other words, in some places there was conflict even before the discovery of natural resources as was the case in the Mediterranean Sea, the Caspian Sea region or the Persian Gulf. In this regard, natural resources might be a scapegoat for the unrest experienced in unstable geographic areas rather than the actual cause of that instability. Secondly, the existing literature undermines the cost of resource conflict. For example, Meierding (2016) identifies no evidence for the oil war hypothesis of De Soysa, Colgan, Hendrix and Nolland. By scrutinizing four case studies, the Iran-Iraq War, Iraq's invasion of Kuwait, the Chaco War and Japan's invasion of the Dutch East Indies she concludes that the fundamental reasons for these wars were security, regime survival and territory rather than oil. She argues that the abundance literature neglects three dimensions of conflict, namely international cost, transportation cost of natural resources and invasion cost. In the same vein, by using another resource related case, Fettweis (2011) claims the Arab Oil Embargo helped to strengthen the cooperation among consumers rather than the establishing of further divisions among the powerful consumers. Finally, this research finds that number of scholars, who are skeptical about the nexus between natural resources and conflict is growing. These scholars challenge the findings of previous works by offering an alternative empirical and quantitative results (e.g. Boschini et al., 2007; Brunnschweiler & Bulte, 2009; Fettweis, 2011; Meierding, 2016).

## 5. Research shortcomings and conclusion

In the following section, I explain persistent research shortcomings and difficulties in the theoretical and empirical arguments that have been put forward so far. The concept of resource conflict is structured and explained differently by different scholars at different times. While the development of related ideas and expressions was partly affected by the events of the 1970s such as the Arab Oil Embargo, some of the (skewed) thinking emerged above all from the false intuition and overestimation of scholars, such as Great Game.

First, function of natural resources in conflict is narrowly explained. Less research has been devoted to non-resource factors of conflicts and their connection with resources. Conflict is composed of multiple dimensions (political, economic, historical, cultural, ethnic and geographical etc.) rather than single factor. It is not clear how non-resource dimensions of conflict interact with natural resources, namely poor performance of state institutions or scarcity of state capacity. One may understand how natural

<sup>11</sup> Other scholars who support this claim are Ross and Voeten 2015; Friedman 2006; Hendrix 2015; Hendrix and Noland 2014.



resources influence non-resource dimensions but one may not find how and whether non-resource dimensions affect scarcity or abundance of natural resources. In this regard, it is not sufficient to simply propose scarcity or abundance of natural resources as the fundamental reason for conflicts.

Second, less research has scrutinized political and economic costs of resources wars, namely occupation cost, international cost and investment costs (e.g. Meierding, 2016). The existing works give a misleading impression that resource incomes can cover easily invasion, investment and international costs of wars.

Third, the existing works consider approximately most resource states to be more or less equal entities. Although such states may have equal rights from juridical perspective, they share too many diverse features to be considered equal entities in other empirical terms. For example, while Azerbaijan and Saudi Arabia have rich natural resources, they are dissimilar in a number of other important ways. However, both qualitative and quantitative analyses neglect this factor while explaining the resource-conflict nexus. Therefore, it is unwise to lump different case studies together in the same category without considering the particular characteristics of the region or country in question.

Moreover, wide part of the existing works adopts a national-level approach by portraying abundance, scarcity and conflict at the unitary state-level. Nevertheless, natural resources are distributed inconsistently over a nation's territory. In other words, only particular places, namely cities or urban areas are affected by the abundance or scarcity of resources. Hence, conflict more likely develops in areas which are excluded from resource wealth and development. However, the present works neglect the distinctive characteristics between resource rich cities and non-resource cities by putting them into country level analysis.

Inadequate explanation of actors and players in resource governance is another weak point. The majority of the literature has surveyed the resource-conflict relationship through the lens of sovereign states or the great powers. The rest of the actors (companies, financial institutions, NGOs, and etc.) are superficially recognized because these actors represent states' national interests. Therefore, little research has focused on other players, such as the role of regional and international organizations (e.g. Hendrix & Noland, 2014; Price-Smith, 2015; Schrijver, 2010). Despite their key importance, states are not the sole actors in the sustainable management and use of natural resources. There are several actors that are involved actively in resource management and disputed areas. Although these actors are not the panaceas for global issues, resource state cannot simply ignore their interests. Meanwhile, to protect their own interests, these actors to some extent affect the security and stability of resource rich regions. Considering, the role of multiple actors is thus crucial, in order to pursue a multi-level analysis and view the complex interdependency of these actors from different perspectives.

Finally, from the perspective of quantitative analysis, there are a number of competing statistical findings that make to find common and general outcome. The variation of results over time is an important difficulty. This time factor can be divided into two parts. The first refers to the period of data analysis, in which studies are conducted; the second

to publication time, meaning the timespan within which scholars publish their articles. According to the first factor, arguments, statistical outcomes and the findings of scholars differ from each other, such as with the argument of conflict onset versus duration, or the resource curse. In this respect, assumption made and results obtained depend on the broadness of the timeframe and scope of research used (Luong & Weinthal, 2010). From the perspective of publication time meanwhile, the quality of argument, data and contexts are all different. The earliest research studies used only low quality explanations and arguments vis-a-vis natural resources.

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